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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,277	03/14/2001	Andrew M. Warwick	GB 000029	3110

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

ROSE, KIESHA L

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,277

Applicant(s)

WARWICK, ANDREW M.

Examiner

Kiesha L. Rose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the request for reconsideration filed 9 June 2003.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Okumura (U.S. Patent 6,265,744).

Okumura discloses a semiconductor device (Figs. 7a and 9) that contains a semiconductor body having an active cell area wherein striped shaped trenches (29), containing gate material (33) and an insulating layer (31) provided between gate material (33) and semiconductor body, extend into the semiconductor body from a surface thereof, where adjacent to the trenches (29) are source regions (25) of the first conductivity type separated from a drain region (21) by a channel accommodating body region (23) of a second conductivity type and a source electrode (41) that contacts the

source region (25), where the active cell area has a network of connected trenches (29) with a source region (25) in each cell and the trenches (29) extend beyond the active cell area to an inactive cell area where the source region (25) is not present, the inactive cell area contains a gate electrode contact area (43) and a gate bond pad (51) that contacts the gate material (33) on the whole area of the trenches and the semiconductor body, where the semiconductor body in the inactive cell area has a first region (27) of first conductivity type and an underlying second region (23) with a second conductivity type, which is continuous with the channel accommodating body region, that are provided as isolated cells surrounded by a network of connected trenches and some of the isolated cells in the inactive cell area nearest to the active cell area are linking cells across the inactive and active cell area that provides voltage protection diodes between the gate and source electrodes (43/41) and a patterned insulating layer (35) is provided on the semiconductor body wherein in the active cell area the insulating layer provides an insulating overlayer on the trenches (29) and has windows where the source electrode (41) contacts the source regions (25) and wherein in the inactive cell area a window in the insulating layer provides the gate electrode contact area (43).

Response to Arguments

Applicant's arguments filed 9 June 2003 have been fully considered but they are not persuasive. Applicant argues that the Okumura reference does not disclose the linking cells provided across the inactive and active areas and that the source electrode does not contact the base region nor the source regions. As stated previously the

Okumura reference does disclose those limitations where the inactive and active areas have linking cells (solid layer between the trenches where there is a space between the source and gate electrode), where the gate is contacted by the gate electrode (33) and the source region is contacted by the source electrode (43). (Refer to Fig. 7A) In addition it is erroneous that the source electrode does not contact the base region or the source regions. As can be seen in Fig. 7, the source electrode does contact the portion P of the base region (23), which can be clearly seen everywhere the insulation film is not located, in addition the source electrode is contacting the source regions also as is seen on the left side of the figure between the insulation films. Therefore the source electrode does contact the source regions and base regions and that there are linking cells provided across the active and inactive regions. Therefore the rejection stands.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 703-605-4212. The examiner can normally be reached on M-F 8:30-6:00 off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 703-308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


KLR

August 20, 2003


AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800